

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-51 (Cancelled)

52 (Currently Amended). The peptide of Claim 50-100 or 51-103, wherein said peptide is dimerized a dimer.

53 (Currently Amended). The peptide of Claim 50-100 or 51-103 wherein said peptide is multimerized a multimer.

54 (Currently Amended). The peptide of Claim 53, wherein said peptide is trimerized a trimer.

55 (Currently Amended). The peptide of Claim 50-100 or 51-103, wherein said peptide is conformationally constrained.

56 (Currently Amended). The peptide of Claim 55, wherein said peptide is cyclized.

57 (Currently Amended). The peptide of Claim 50-100 or 51-103, wherein said peptide has further comprising an N-terminal lauryl-cysteine (LC) and/or a C-terminal cysteine.

58 (Currently Amended). The peptide of Claim 50-100 or 51-103, wherein said peptide has further comprising an N-terminal and C-terminal cysteine.

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59 (Currently Amended). The peptide of Claim 58,  
wherein the said peptide comprises has an intramolecular  
disulfide bridge.

60 (Currently Amended). The peptide of Claim 50-100  
or 51-103 further comprising wherein said peptide has an N-  
terminal and a C-terminal D-amino acid residue.

61 (Previously Presented). The peptide of Claim 60,  
wherein the D-amino acid is D-alanine.

62 (Currently Amended). The peptide of Claim 10050  
or 10351, wherein said peptide has comprising an N-terminal  
acetyl group.

63 (Currently Amended). The peptide of Claim 10050  
or 10351, wherein said peptide has further comprising a C-  
terminal D-amino acid residue.

64 (Previously Presented). The peptide of Claim 63,  
wherein the D-amino acid is D-alanine.

65 (Currently Amended). An isolated peptide  
consisting of the amino acid sequence of SEQ. ID NO.:1 wherein  
said peptide does not have toxin agonist activity and is  
capable of antagonizing toxin-mediated activation of T  
lymphocytesT-lymphocytes.

66 (Currently Amended). An isolated peptide  
consisting of the amino acid sequence of SEQ. ID NO.:2 wherein  
said peptide does not have toxin agonist activity and is

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capable of antagonizing toxin-mediated activation of  $\Phi$   
lymphocytesT-lymphocytes.

67 (Currently Amended). An isolated peptide  
consisting of the amino acid sequence of SEQ. ID NO.:3 wherein  
said peptide does not have toxin agonist activity and is  
capable of antagonizing toxin-mediated activation of  $\Phi$   
lymphocytesT-lymphocytes.

68 (Currently Amended). An isolated peptide  
consisting of the amino acid sequence of SEQ. ID NO.:4,  
wherein said peptide does not have toxin agonist activity and  
is capable of antagonizing toxin-mediated activation of  $\Phi$   
lymphocytesT-lymphocytes.

69 (Currently Amended). An isolated peptide  
consisting of the amino acid sequence of SEQ. ID NO.:5 wherein  
said peptide does not have toxin agonist activity and is  
capable of antagonizing toxin-mediated activation of  $\Phi$   
lymphocytesT-lymphocytes.

70 (Currently Amended). An isolated peptide  
consisting of the amino acid sequence of SEQ. ID NO.:6 wherein  
said peptide does not have toxin agonist activity and is  
capable of antagonizing toxin-mediated activation of  $\Phi$   
lymphocytesT-lymphocytes.

71. (Currently Amended). An isolated peptide  
consisting of the amino acid sequence of SEQ. ID NO.:7 wherein

said peptide does not have toxin agonist activity and is capable of antagonizing toxin-mediated activation of T lymphocytesT-lymphocytes.

72 (Currently Amended). An isolated peptide consisting of the amino acid sequence of SEQ. ID NO.:8 wherein said peptide does not have toxin agonist activity and is capable of antagonizing toxin-mediated activation of T lymphocytesT-lymphocytes.

73 (Currently Amended). An isolated peptide consisting of the amino acid sequence of SEQ. ID NO.:9 wherein said peptide does not have toxin agonist activity and is capable of antagonizing toxin-mediated activation of T lymphocytesT-lymphocytes.

74 (Currently Amended). An isolated peptide consisting of the amino acid sequence of SEQ. ID NO.:10 wherein said peptide does not have toxin agonist activity and is capable of antagonizing toxin-mediated activation of T lymphocytesT-lymphocytes.

75 (Currently Amended). An isolated peptide consisting of the amino acid sequence of SEQ. ID NO.:11 wherein said peptide does not have toxin agonist activity and is capable of antagonizing toxin-mediated activation of T lymphocytesT-lymphocytes.

76 (Currently Amended). A composition which inhibits pyrogenic exotoxin-mediated activation of T-lymphocytes comprising an isolate comprising an isolated and purified peptide having an amino acid sequence homologous to an amino acid sequence of a domain of a pyrogenic exotoxin which domain forms a central turn in the exotoxin starting within  $\beta$  strand 7 and connecting the  $\beta$  strand 7, via short  $\beta$  strand 8, to  $\alpha$  helix 4, and ending within  $\alpha$  helix 4, based on the domain numbering of SEB, wherein said peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T lymphocytes, in accordance with Claim 100 in an amount effective to inhibit exotoxin-induced expression of an RNA encoded by the IL-2, IFN- $\gamma$ , and/or TNF- $\beta$  genes, and a carrier.

77 (Previously Presented). The composition of Claim 76, wherein the peptide has a sequence selected from the group consisting of SEQ. ID NO.:1, SEQ. ID NO.:2, SEQ. ID NO.:3, SEQ. ID NO.:4, SEQ. ID NO.:5, SEQ. ID NO.:6, SEQ. ID NO.:7, SEQ. ID NO.:8, SEQ. ID NO.:9, SEQ. ID NO.:10, and SEQ. ID NO.:11.

78 (Previously Presented). The composition of Claim 76, wherein the peptide has a sequence selected from the group consisting of SEQ. ID NO.:2, SEQ. ID NO.:6, SEQ. ID NO.:7,

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SEQ. ID NO.:8, SEQ. ID NO.:9, SEQ. ID NO.:10 and SEQ. ID NO.:11.

79 (Previously Presented). The composition of Claim 76, wherein the peptide has the sequence of SEQ. ID NO.:2.

80 (Currently Amended). An immunogenic composition for eliciting antibodies that block pyrogenic exotoxin mediated activation of T-lymphocytes comprising an isolated and purified peptide ~~having an amino acid sequence homologous to an amino acid sequence of a domain of a pyrogenic exotoxin which domain forms a central turn in the exotoxin starting within β strand 7 and connecting the β strand 7, via short β strand 8, to α helix 4, and ending within α helix 4, based on the domain numbering of SEB, wherein said peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T lymphocytes, in accordance with~~ Claim 100 in an amount effective to elicit said antibodies, and a carrier.

81 (Previously Presented). The immunogenic composition of Claim 80, further comprising an adjuvant selected from the group consisting of proteosomes, KLH, alum and mixtures thereof.

82 (Previously Presented). The immunogenic composition of Claim 80, wherein the peptide has a sequence selected from the group consisting of SEQ. ID NO.:1, SEQ. ID

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NO.:2, SEQ. ID NO.:3, SEQ. ID NO.:4, SEQ. ID NO.:5, SEQ. ID NO.:6, SEQ. ID NO.: 7, SEQ. ID NO.:8, SEQ. ID NO.:9, SEQ. ID NO.:10 and SEQ. ID NO.:11.

83 (Previously Presented). The immunogenic composition of Claim 80, wherein the peptide has a sequence selected from the group consisting of SEQ. ID NO.:2, SEQ. ID NO.:6, SEQ. ID NO.: 7, SEQ. ID NO.:8, SEQ. ID NO.:9, SEQ. ID NO.:10 and SEQ. ID NO.:11.

84 (Previously Presented). The immunogenic composition of Claim 80, wherein the peptide has the sequence of SEQ. ID NO.:2.

85 (Currently Amended). An immunogenic composition for eliciting protective immunity against toxic shock comprising an isolated and purified peptide having an amino acid sequence homologous to an amino acid sequence of a domain of a pyrogenic exotoxin which domain forms a central turn in the exotoxin starting within  $\beta$  strand 7 and connecting the  $\beta$ -strand 7, via short  $\beta$  strand 8, to a helix 4, and ending within  $\alpha$  helix 4, based on the domain numbering of SEB, wherein said peptide does not have toxin-agonist activity and is capable of antagonizing toxin mediated activation of T lymphocytes in accordance with Claim 100 in an amount effective to elicit said protective immunity, and a carrier.

86-93 (Cancelled)

94 (Currently Amended). The peptide of Claim 88103,  
wherein the peptide is capable of eliciting antibodies that  
block pyrogenic exotoxin-mediated activation of T-lymphocytes.

95-99 (Cancelled)

100 (New). An isolated and purified peptide  
consisting of:

a) a peptide consisting of an amino acid sequence  
which is within a domain of a pyrogenic exotoxin which domain  
forms a central turn in the exotoxin and includes  $\beta$ -strand 7,  
 $\beta$ -strand 8, and  $\alpha$ -helix 4, based on the domain numbering  
of *Staphylococcus aureus* enterotoxin B (SEB), said sequence  
starting within or immediately after  $\beta$ -strand 7 and ending  
within  $\alpha$ -helix 4, wherein said isolated peptide does not have  
toxin agonist activity and is capable of antagonizing toxin-  
mediated activation of T-lymphocytes;

b) a peptide having at least 25% homology with  
said peptide of a), wherein the resultant peptide does not  
have toxin agonist activity and is capable of antagonizing  
toxin mediated activation of T-lymphocytes;

c) a peptide of a) or b) that is extended at the  
N-terminus and/or the C-terminus by one or two naturally  
occurring or synthetic amino acid residues, or by an organic  
moiety that is not a naturally-occurring or synthetic amino  
acid residue, wherein the resultant peptide does not have

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toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes;

d) a dimer or multimer of a), b), or c), wherein the resultant peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes; or

e) a peptide of a), b) or c) in a constrained conformation, wherein the resultant peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes.

101 (New). A peptide in accordance with Claim 100, wherein said peptide of a) consists of a dodecamer that is part of said domain consisting of amino acids 150-161, using the amino acid number of SEB.

102 (New). The peptide of Claim 100, wherein said peptide of b) is the peptide of a) having insertions, deletions or substitutions of up to three amino acids, wherein the resultant peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes.

103 (New). An isolated and purified peptide consisting of:

a) a peptide of the amino acid sequence

Lys Lys Xaa Xaa Xaa Xaa Gln Glu Leu Asp (SEQ.

ID NO.:13,

Xaa Xaa Lys Lys Xaa Xaa Xaa Xaa Gln Glu Leu Asp

(SEQ. ID NO.:14) or

(Thr or Tyr) Xaa Lys Xaa Xaa Xaa Xaa Xaa Xaa

Glu Xaa Asp (SEQ. ID NO.:15),

wherein said peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes;

b) a peptide of a) that is extended at the N-terminus and/or the C-terminus by one or two naturally occurring or synthetic amino acid residues, or by an organic moiety that is not a naturally-occurring or synthetic amino acid residue, wherein the resultant peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes;

c) a dimer or multimer of a), or b), wherein the resultant peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes; or

d) a peptide of a), or b) in a constrained conformation, wherein the resultant peptide does not have toxin agonist activity and is capable of antagonizing toxin mediated activation of T-lymphocytes.

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104 (New). A peptide in accordance with Claim 103,  
wherein said peptide of a) is SEQ. ID NO.:13.

105 (New). A peptide in accordance with Claim 103,  
wherein said peptide of a) is SEQ. ID NO.:14.

106 (New). A peptide in accordance with Claim 103,  
wherein said peptide of a) is SEQ. ID NO.:15.

107 (New). A peptide in accordance with Claim 103,  
wherein the peptide of a) is SEQ. ID NO.:2.

108 (New). A peptide in accordance with Claim 103,  
wherein the peptide of a) is SEQ. ID NO.:4.

109 (New). The peptide of Claim 100 or 103, wherein  
said peptide of a) is SEQ. ID NO.:1.

110 (New). The peptide of Claim 100 or 103, wherein  
said peptide of a) is SEQ. ID NO.:3.

111 (New). A composition comprising a peptide in  
accordance with Claim 100 or 103 and a carrier.

112 (New). The composition of Claim 76, wherein, in  
said peptide, said peptide of a) consists of a dodecamer that  
is part of said domain consisting of amino acids 150-161,  
using the amino acid number of SEB.

113 (New). The immunogenic composition of Claim 80,  
wherein, in said peptide, said peptide of a) consists of a  
dodecamer that is part of said domain consisting of amino  
acids 150-161, using the amino acid number of SEB.